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(56) Documents cited

GB 2255112 A

GB 2237041 A

GB 2201436 A

GB 2130616 A

GB 1564752 A

GB 1289140 A

GB 0525650 A

(58) Field of search

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INT CL<sup>5</sup> E04B

(54) Protecting joists from moisture

(57) An end portion of a timber building element (20), particularly a joist, is protected by being covered by a trough (10). This is of thin, usually plastics, material that grips the element resiliently. It provides a thin skin that (mainly) embraces the joist closely, so that it does not affect the ability to build the joist into a wall (22). There may be small channels (16) to provide ventilation and/or assist resilient engagement. Thus the exposed end (28) of a joist is protected against uptake of water.

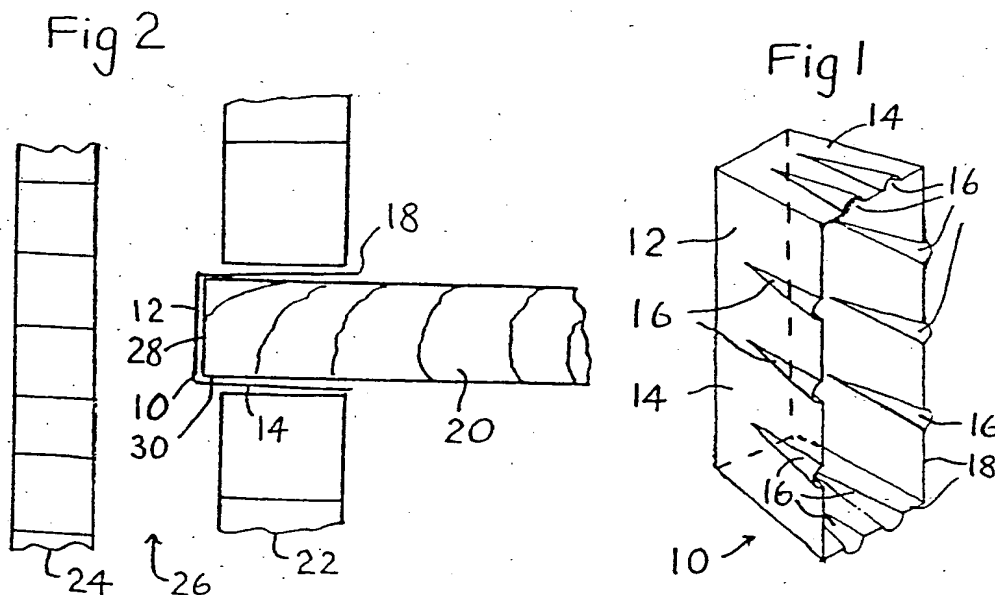


Fig 2

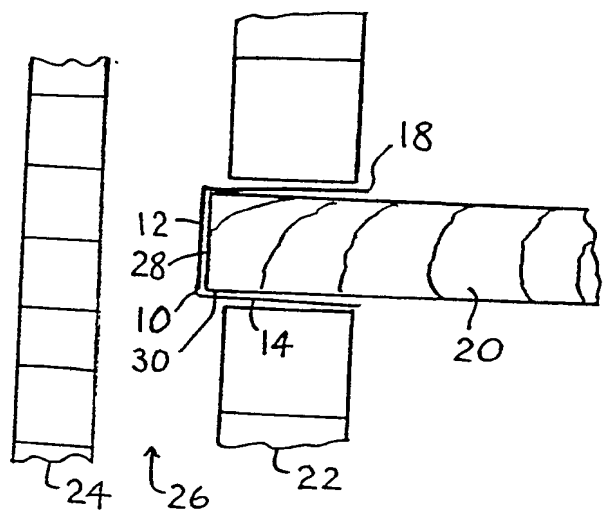
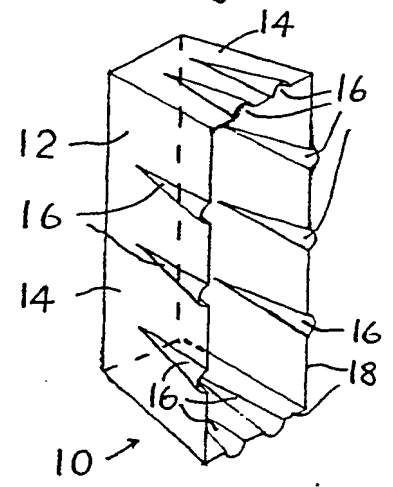


Fig 1



PROTECTING JOISTS FROM MOISTURE

The invention relates to a means and method for protecting timber building elements (particularly joists) against moisture. In further aspects it relates to a  
5 protected timber element, to a building structure including a protected timber element and to a building structure including protected timber elements.

In modern house building, for example, the external walls are cavity walls, and floors are supported by  
10 timber joists whose end regions extend through the inner skins of respective cavity walls. In correct building practice, a joist extends through the full thickness of the skin, to receive maximum support, but does not project into the cavity. Nevertheless its end face is  
15 exposed to the cavity interior. Furthermore not all building work is carried out correctly. Frequently joists project into cavities, so that end portions of side faces are also exposed. The air within a cavity tends to be very moist. Timber has a high affinity for  
20 water. Thus the joist end portions tend to pick up water, which makes them prone to decay. A joist that is supported by a solid wall generally extends to the exterior, where it too may be liable to pick up water.

Thus in one aspect the invention provides an end cap  
25 for an elongate timber building element (e.g. a joist) comprising a plastics trough member for embracing an end

portion of the element. The trough may have a slight taper to facilitate engagement with the element and to allow for some variation in the dimensions of different elements. That is, it generally has a rectangular end wall or base, and four side walls extending from the base, with the internal angle between at least one side wall and the base being slightly in excess of a right angle. The material and dimensions and/or the configuration of the trough is desirably such as to facilitate positive engagement with an element. The tapered form aids insertion and wedging engagement, which is also promoted by a degree of resilient 'give'. This may be provided by the nature of the material of the walls and their thinness. It may be assisted by features of configuration. Inwardly open channels extending from the outer edges of side walls towards the base can assist the engagement and/or aid ventilation of an engaged element.

An embodiment of the invention will now be described in more detail with reference to the accompany drawings in which.

Fig. 1 is schematic perspective view of a joist glove which is an end cap embodying the invention; and

Fig. 2 is a vertical section through a wall construction embodying the invention in another aspect, and including a joist glove.

The joist glove 10 shown in fig. 1 is a plastics trough moulded of a suitable material such as is used for DPC vapour barriers. This may be a thermoplastic material, e.g. polypropylene, suitably about 1mm thick.

5 Of course, different thicknesses may be required for different embodiments, generally in the range 0.5 - 3mm. The glove 10 has a rectangular base 12 and four side wall portions 14 that diverge slightly away from it, to form a tapered trough. (The taper is much exaggerated in Fig.

10 1). Tapering channels 16 extend inwardly someway from the free outer edges 18 of the side wall portions 14. They open inwardly and are provided by external bulges. The depth of a trough may correspond approximately to the thickness of an inner skin of a cavity wall.

15 A joist 20 is a length of timber of rectangular section. It may be protected by engaging its ends with joist gloves 10 whose bases have the same shape as the end faces of the joist, and similar or slightly smaller dimensions. Thus gloves 10 can simply be pushed on and

20 engaged frictionally. Slight variations in shape and size of joist ends can be accommodated by the taper of the gloves 10 and their inherent resilient flexibility which is provided by the nature of the material, its thinness, and the channels 16. Once a glove 10 is

25 engaged, the joist can be built into an inner skin 22 of a cavity wall, which will also have an outer skin 24 on

the other side of a cavity 26. Fig 2 shows a portion of wall that has not been built in accordance with building standards, in that the illustrated joist 20 projects some way into the cavity 26. Nevertheless neither its end face 28 nor the projecting side portions 30 are exposed to the cavity, because they are shielded by the glove 10. The glove may extend fully through the inner skin 22 as shown, or just part way. Since it is, in effect, a thin skin that closely embraces the joist it does not affect the solidity of the building in of the joist. The channels 16 may allow for ventilation of the sheathed joist ends.

Claims

1. A building component comprising an elongate timber element having a trough member embracing an end portion.

5        2. A component according to claim 1 wherein the trough has a taper to enhance engagement with the timber element.

3. A component according to claim 2 wherein the trough has a rectangular base, and four side walls  
10 extending from the base, with the internal angle between at least one side wall and the base being in excess of a right angle to provide the taper.

4. A component according to any preceding claim wherein the trough resiliently grips the end portion.

15        5. A component according to any preceding claim wherein the trough has a base and a peripheral wall upstanding from the base, with inwardly open channels extending from the outer edge of the wall towards the base to assist the engagement and/or aid ventilation of  
20 the engaged element.

6. A component according to any preceding claim wherein the trough member is of plastics material.

7. A building component comprising a timber element and a trough member substantially as herein  
25 described with reference to and as illustrated in the accompanying drawings.

8. A trough member for use in protecting the end of a timber building element thereby to provide a building component according to any preceding claim, said member having a base and an upstanding peripheral wall.

5 9. A method of protecting an end region of an elongate timber building element comprising providing a trough member and engaging it over said end region so as to produce a building component according to any of claims 1 to 6.

10 10. A building construction comprising a wall, an opening in said wall, and a building component according to any of claims 1 to 6, the end portion of the element which is embraced by the trough member extending into said wall opening.

15 11. A building construction according to claim 10 wherein said wall opening extends fully through said wall so that the end of the timber element would be exposed were it not for the trough member.

20 12. A building construction according to claim 11 wherein said wall is an inner skin of a cavity wall and the element extends from the inner side towards (and optionally into) the cavity.

25 13. A building construction substantially as herein described with reference to and as illustrated in the accompanying drawings.



**Patents Act 1977**

**Examiner's report to the Comptroller under  
Section 17 (The Search Report)**

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**Relevant Technical fields**

(i) UK Cl (Edition K ) E1D: DPC, DF106

(ii) Int Cl (Edition 5 ) E04B

**Search Examiner**

J D CANTRELL

**Databases (see over)**

(i) UK Patent Office

(ii)

**Date of Search**

6 JANUARY 1993

Documents considered relevant following a search in respect of claims 1-13

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X, E	GB 2255112 A (USHER)	1, 5, 6, 8-12
X	GB 2237041 A (SIBLEY)	1, 5, 6, 8-10
X	GB 2201436 A (HARMER)	1, 5, 6, 8-10
X	GB 2130616 A (SYMCOX)	1, 5, 8-12
X	GB 1564752 (GRINDROD)	1, 5, 6, 8-10
X	GB 1289140 (STEEL)	1, 5, 6, 8-10
X	GB 525650 (KEILLOR)	1, 8-10

Category	Identity of document and relevant passages	Relevant to claim(s).

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